Name _____ Date_____ Period_____

WORKSHEET - WRITING QUADRATIC FUNCTIONS

Analyze the function algebraically.

1. $f(x) = -4x^2 + 32x - 48$

a) Vertex _____

b) X-Intercepts _____

c) Y-Intercept _____

d) Does f(x) have a maximum or minimum? _____

e) Where does the max or min occur? _____

f) What is the max or min? _____

g) Domain _____

h) Range _____

i) Axis of Symmetry _____

Use the given information to write the equation of each quadratic function.

2. Its graph is a parabola with x-intercepts (2, 0) and (–1, 0) and y-intercept (0, 6).

equation: _____

3. The function has zeros (5, 0) and (1, 0) and f(0) = 1.

equation: _____

4. Its graph is a parabola with vertex (4, 8) and passes through the origin.

equation: _____

5. The maximum value of g is g(-1) = 6, and g(-3) = 4.

equation: _____

6. The vertex is (4, -1) and contains the point (2, 3).

equation: _____

7. The intercepts of the parabola are (-1, 0), (5, 0), and (0, 15).

equation: _____

8. Write the equation for #6 in all three forms.

Standard _____ Vertex _____ Root _____

ANSWERS: 1. a) (4, 16), b) (6, 0)(2, 0) c) (0, –48) d) Max e) max @ 4 f) max is 16 g) All Reals h) $(-\infty, 16]$ i) x = 4 2. $f(x) = -3(x-2)(x+1)$ 3. $f(x) = 1/5(X-5)(X-1)$ 4. $f(x) = -\frac{1}{2}(x-4)^2 + 8$ 5. $f(x) = -\frac{1}{2}(x+1)^2 + 6$ 6. $f(x) = (x-4)^2 - 1$ 7. $f(x) = -3(x+1)(x-5)$ 8. $f(x) = x^2 - 8x + 15$ $f(x) = (x-4)^2 - 1$ $f(x) = (x-3)(x-5)$